



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

TRANSACTIONS  
OF THE  
AMERICAN ENTOMOLOGICAL SOCIETY.

---

VOLUME XXXIV.

---

DIPTEROLOGICAL NOTES.—I.

MICROPEZIDÆ.

(Plates I-II.)

BY E. T. CRESSON, JR.

This paper is the result of a short study of the material in the collection of the Academy of Natural Sciences of Philadelphia, which is mostly neotropical, and includes some species that have been but little noted heretofore. I have taken the liberty of redescribing those of which, to my knowledge, only the brief original description exists, and have therefore given many additional characters of specific value.

The male genitalia holds very good characters, and I have therefore given a few figures showing their variations. The ovipositor of the female, mentioned in the following descriptions, unless otherwise designated, refer only to the first section, not to the retractile portion.

Osten Sacken, in his "Diptera from the Philippine Islands" (Berl. Ent. Zeit., xxvi, p. 194, 1882), describes the chætotaxy of the Micropezidæ, which I will give for those species treated herein. Of the thorax there are two præscutellars, two supra-alars,—one of which may be called the postalar,—two notopleurals, two scutellars, with the following exceptions: *Calobata nebulosa* Lw. has another bristle before the præscutellars; *C. annulata* Fab. and the genus *Micropeza* have no præscutellars. The pleuræ of the genera *Calobata* and *Cardiacephala* have no distinct bristles, but there are one or more series of long hair-like bristles on the posterior portion of the hypopleuræ. In the genus *Micropeza*, on the other hand, there is a strong sternopleural bristle, with several minute ones below it,

but no hairs on the hypopleura. The chaetotaxy of the head varies and will be treated in the description of each species; but there is a common absence of the ocellar bristles in all genera, and of the frontal bristles in the genus *Micropeza*; but the inner and outer verticals are present in all genera.

### MICROPEZA Meigen.

Illiger's Magazine, ii, 276, 1803.

Head somewhat conical, projecting forwards beyond the eyes, and the occiput much swollen posteriorly; the front and cheeks nearly parallel; antennæ short, third joint rounded; thorax narrow, elongate; abdomen slender; auxiliary vein wanting; discal and second basal cells united; apical cell narrowed or closed apically.

#### PARTIAL TABLE OF NORTH AMERICAN SPECIES.

1. Apical cell closed and petiolate (for this group, see "Biologia," Diptera, vol. ii, p. 364; includes, as far as known, only the Mexican species).  
Apical cell open, or closed in the margin of wing.....2.
2. Hind femora banded near the apex; small species (4 mm.), Mexican.  
**nigricornis** v. d. W.  
Hind femora not banded; larger species.....3.
3. Thorax and abdomen rufous; apical cell closed in the margin.  
**producta** Walk.  
Thorax, but especially the abdomen, black above; apical cell open.....4.
4. Posterior part of mesonotum with a large yellow area; vertex yellow, marked with brownish lines; antennæ in both sexes black..**turcana** Town.  
Mesonotum not so marked; vertex mostly black; antennæ of male only with third joint yellow.....**ambigua** var. nov.

**Micropeza turcana** Town., Trans. Kans. Acad. Sci., xiii, 136, 1894.

One ♂. Highrolls, New Mexico (Viereck and Rehn). This specimen agrees so well with the typical description that there seems to be no doubt about it being this species, but it shows a few characters that differ from the typical, and which, with some additional characters, I will note here: the brown side stripes of the posterior portion of the front, and the vertex, noted in the typical description, are connected by other lines which divide that portion of the head into yellow areas. The main stripes run from the upper corner of each eye over the vertex, passing just inside or including the outer verticals, then passing on down the occiput, where they unite with each other at the neck; another pair leave the main pair about opposite the ocellar tubercle, includes the inner verticals, and unites

with each other in an irregular spot at the post-verticals; a third pair descend vertically from the main pair to the posterior orbits of the eyes.

The principal differences between this and its variety *ambigua* are given below.

***Micropeza (turcana) ambigua* var. nov.** (Pl. I, figs. 1, 2).

*Male*.—Yellow to whitish below, marked with black or brown as follows: a median frontal vitta from the black ocellar tubercle nearly to the base of antennæ; vertex and upper part of occiput, also a brown spot on the occiput under the neck; a spot in each antennal foveæ; second and base of third antennal joint and the bare arista; *dorsum of thorax* limited on each lateral margin by a yellow stripe running from the neck to base of wing, this yellow stripe encroaches on the dorsum anteriorly, constricting the black portion to about the width of the neck; postalar callus yellowish. The scutellum brownish, with a darker median spot. The pleura with a brown stripe running from the neck to, and connecting with, the black metanotum; a brown or black stripe on the ventral part of the sternopleura running from the fore to the middle coxæ. *Dorsum of abdomen* black, with narrow yellow or whitish posterior and lateral margins of segments 2-6, wider on the sixth. Genitalia yellow, with brownish marks; the yellow clasps beneath the fourth segment conspicuously developed (see Figure 2). *All coxæ* whitish; femora dark yellow, without rings; tibiæ darker yellow, black at apex; all tarsi black. *Wings* yellowish-hyaline; veins rufous; apical cell open; posterior cross-vein slightly bowed out; anal cell not acute.

*Female* similar, but the frontal vitta is wider; antennæ entirely black; the yellow margins of the sixth abdominal segment not broader than the preceding segments; first joint of the ovipositor nearly one-half as long as the abdomen, brown, yellow on the lateral margins towards the apex; second joint black.

Length 6-7 mm.

Numerous specimens of both sexes. Cloudercroft and Highrolls, New Mexico (Viereck and Rehn).

This is without doubt a variety of *M. turcana* Town., being distinguished by the entirely black vertex, and the mesonotum without the yellow median area.

**CALOBATA** Meigen.

Illiger's Magazine, ii, 276, 1803.

Head not conical, but more or less hemispherical or rounded; the lower part only of the occiput generally being turgid; antennæ short, third joint rounded or oval. Thorax stout, but more or less attenuated anteriorly. Abdomen rather stout; the genitalia sometimes greatly developed. Auxiliary vein of wing present; discal and second basal cells separated by the usual cross-vein; last two sections of the fourth vein of about equal length; apical cell nar-

rowed or closed apically; anal cell large, sometimes with a long attenuated lobe.

This genus, at present, holds two very characteristic groups. If, upon further study of those species not herein mentioned, these groups still hold their well-marked characters, they may be, with safety, considered good genera. I have, in the following table—which treats only of those species under observation—made these groups the primary divisions. The difference in form of the genitalia of ♂ and ovipositor of ♀ seems to be the most marked character for their separation. These differences, as well as their specific variations, I have shown, when they exist, by a series of sketches. Those instances where only the clasps of the male are figured, the other parts are similar.

- Front narrow, more than twice as long as wide; the ocellar tubercle nearer the occiput than to the antennæ; thorax more or less well developed anteriorly, the humeral calli distinct; the genitalia much developed; the clasps of male, usually situated beneath the third abdominal segment, are membraneous and sessile, greatly enlarged, not filiform; the ovipositor of female short, and irregularly developed, truncate at apex, not extending forward beneath the abdomen.....1.
- Front nearly as wide as long; the ocellar tubercle about midway or nearer the antennæ than to the occiput; thorax much constricted anteriorly, the humeral calli indistinct; the genitalia not unusually enlarged; the clasps of male situated nearer the apex of abdomen on a more or less elongated pedicle or common base, somewhat filiform; ovipositor of female long, tapering to a more or less filiform apex, and extending forward beneath the abdomen.....2.
1. Thorax and abdomen yellow or rufous, with a black median stripe, which is sometimes indistinct on the thorax... ..**univitta** Walk., ♂, ♀.  
Thorax and abdomen, except the clasps of male, entirely black.  
**alesia** Walk., ♂, ♀.
2. Wings uniformly blackish, not banded; the costa, between the ends of second and third veins, much less than half the length of the last section of fourth vein .....**diversa** Schi., ♀.  
Wings hyaline or banded; the costa, between second and third veins, nearly as long as the last section of fourth vein.....3.
3. Anal cell short, not much longer than the second basal cell.....4.  
Anal cell more than twice as long as the second basal cell .....6.
4. Head and thorax rufous .....5.  
Head and thorax black; wings hyaline or faintly banded.  
**antennæpes** Say, ♂, ♀.
5. Wings with distinct cross-bands; hind femora with a preapical ring; hind metatarsi white .....**fasciata** Fab., ♀.  
Wings with a discal brownish cloud; hind femora and tarsi not so marked.  
**nebulosa** Lw. ♂, ♀.

6. Thorax rufous.....7.  
 Thorax black or bluish; wings distinctly banded.....8.
7. Wings with two distinct brownish cross-bands and an apical spot; abdomen of a coppery-red color; the apex of second vein about opposite the posterior cross-vein.....**ichneumonea** Brauer, ♂, ♀.  
 Wings with one distinct cross-band and an apical spot; abdomen bluish-black; the end of second vein far before the posterior cross-vein.  
**callichroma** Big., ♂, ♀.
8. The apical hyaline space wider or as wide as the brown band before it; thorax bluish; no frontal or præscutellar bristles....**annulata** Fab., ♂, ♀.  
 The apical hyaline space much narrower than the brown band before it; at least two frontal and one præscutellar bristles present .....9.
9. Fore tarsi entirely white; apical cell open; hind femora with a distinctly oblique whitish ring beyond the middle....**angulata** Lw., ♂, ♀.  
 Fore metatarsi only white; apical cell closed in the margin; the ring on the hind femora not distinctly oblique .....**lasciva** Fab., ♂, ♀.

**Calobata univitta** Walker, List, iv, 1049, 1849. (Pl. I, figs. 3 and 4.)

Yellow to rufous, with black or brown markings. *Front* opaque, with narrow silvery side stripes, and a large silvery triangle at each side of the vertex, which are nearly confluent behind the black ocellar tubercle; this tubercle is situated nearer the vertex than to the antennæ; no post-vertical or frontal bristles. Face and cheeks white, silvery in certain aspects; clypeus whitish, not prominent. Antennæ yellow; second joint darker; third about one and a half times as long as the second, apx rounded; arista shortly plumose. Occiput strongly convex; lower part of orbits with a large silvery spot confluent with the silver of the cheeks. *Thorax* shining, with a narrow median blackish vitta, widening over the scutellum; this vitta is more distinct in the male, but is often nearly invisible. Lower part of pleuræ whitish pollinose; metanotum with a black median spot. Halteres whitish. *Abdomen* shining, with a black median stripe, which is broader in the female, interrupted at the incisions; fifth and sixth segments of male distinctly constricted laterally, and the genital segment much enlarged; the translucent yellow clasps of male, situated beneath the third segment, are broad and flattened, their apices bent in form of hooks and their anterior inner margins provided with minute black spines. Ovipositor of female with a black median stripe, broadened laterally at the base, where it is nearly cylindrical, then tapering laterally to a truncate apex (see drawings). *Legs* yellow; hind femora with a preapical blackish band or only a spot underneath at the apex. *Wings* hyaline, with the first posterior cell open; anal cell as short as the second basal cell, the lower angle about right angular. Length 5-7 mm.

One ♂, Highrolls, New Mexico (Viereck and Rehn), and several pairs from Pennsylvania.

In this and the next following species (*C. alesia* Walk.) it will be seen, by referring to figures 3 and 4 of Plate I, which represent the genitalia of these species, that these members are greatly enlarged. The genital segments of male are complicated and more or less globular in form; the clasps, it will be noticed, are broad and rather

membraneous, arising separately from each side of the venter, curving towards each other, provided, at their apices, with hooks, or, as in *alesia* Walk., with knob-like swellings, bent over to serve as hooks. These clasps are to lay hold of the ovipositor (as it is here called), the hooks following into a groove which exists beneath the same. The genital segment of female, or ovipositor, is also, as will be seen (in Figure 4), very much enlarged, of irregular shape, not awl-shaped as is general with these members; and are not capable of folding under against the venter. These characters alone are of sufficient value for generic separation when compared with those of the other group (Figures 7 and 8).

This is the common eastern North American species of this group, and may be found upon low herbage in cool shady situations.

**Calobata alesia** Walker, List, iv, 1048, 1849. (Pl. I, figs. 5 and 6.)

Shining black, with yellow legs. *Front* in the middle, the vertex and upper median part of the occiput, opaque; a narrow silvery stripe on each side of vertex, running from the inner vertical bristle to the vertical orbit, then on down the frontal orbits to the face; no post verticals, but sometimes two or three minute frontal bristles. Face light yellow; clypeus inconspicuous. Occiput much swollen and whitish pollinose below. Proboscis brown. Antennæ darker than face; third joint slightly longer than the second; arista black, minutely plumose. *Thorax* with a narrow lateral pollinose stripe from the humerus to the scutellum; the lower part of pleura also whitish pollinose; between the fore coxæ yellow. Halteres nearly white. *Abdomen* of male with third segment swollen laterally, then constricting to the narrower fifth; the genital segments similar to those of *univitta* Walk.; the clasps are much more enlarged than those of the latter species, their apices with pad-like hooks; between these clasps projects a short double knobbed process which are, as are also the clasps, a translucent yellow. The abdomen of female is cylindrical; the ovipositor is also black, of an irregular shape, being wider than the abdomen, with a cordate base, and tapering slightly to a truncate triangular apex. Hind tibiæ and a band near the apex of hind femora black or brown. *Wings* hyaline; veins yellow toward the costa; first posterior cell open; anal cell short. Length 6 mm.

Both sexes. New Jersey and northern Illinois.

The drawings will readily show where this species differs in regards to the genitalia, and the synoptic table will give other differences.

**Calobata antennæpes** Say, Journ. Acad. Sci. Phila., iii, 97, 1823.

(Pl. I, figs. 7 and 8; II, fig. 9.)

Brown to black, with yellow markings. *Front* black; sides shining; median vitta opaque, with whitish reflection; three or four pairs of frontal bristles. Vertex much wider than front, not differentiated from, but is rounded into, the occiput; the ocellar tubercle is situated about midway between the post verticals

and the antennæ. Face brown, shorter than wide; sides and cheeks silvery; clypeus projecting, shining black. Palpi jet black. Antennæ as long as the face, yellow to brown, with the third joint sometimes black; the latter about twice as long as the second and nearly as wide as long; second joint with a distinct bristle beneath, as long as the third joint; arista black, slender, bare. *Thorax* brownish, dusted above; pleuræ more shining, with whitish bloom below; metanotum whitish pollinose. Scutellum brownish, with two erect apical bristles. Halteres blackish-brown. *Abdomen* brown, shining; first segment the narrowest, with long erect yellow hairs; posterior margins of segments 2-5 narrowly whitish. The genital segments of male not enlarged; the last segment flattened laterally; the claspers are beneath the fifth segment, being two slender filiform appendages on a common pedicle or base, with their anterior mesal surfaces provided with short black spines. The ovipositor of female is more or less awl-shaped, about one-half as long, and as wide at its base as the abdomen, tapering to one-half this width at the apex; the second joint filiform, more or less extended. *Fore coxæ* and basal half of femora yellow; tibiæ black, but tarsi snow white. Middle and hind coxæ, base, sometimes basal half, a preapical ring, and knees of femora, yellow; apical half of tibiæ more or less yellowish; hind metatarsi white. *Wings* hyaline, with a broad brownish band crossing the apical half of discal cell, including the posterior cross-vein; and a brownish apical spot; first posterior cell open; anal cell acute at the apex, as long as the second basal cell; small cross-vein at middle of the discal cell. Length 8-10 mm.

Both sexes. Pennsylvania.

I have made drawings showing the genitalia of this species as typical for this group, but these vary in detail with each species. The difference will be readily seen at a glance, and there is no need of noting them here.

This is the common eastern North American species of this group, and is generally found in the wood upon the bark of trees and on foliage.

### ***Calobata fasciata* Fab.**

*Musca*, Fabricius, Syst. Ent., 781, 1775.

*Calobata*, Wiedmann, Auss. Zwei., ii, 536, 1830.

♀.—Generally rufous, rather shining. *Front*, vertex and occiput rounded into each other without any ridge to differentiate them; one pair of frontal bristle which are opposite the ocelli; these ocelli are slightly nearer the verticals than to the antennæ; no post vertical bristles. Face lighter, more or less silvery. Antennæ shorter than the face; third joint rufous or yellow; arista very slender, bare. *Thorax* more or less pollinose, especially the lower part of the pleuræ. Scutellum with two diverging bristles. Halteres rufous, with darker knobs. *Abdomen* dark brown above; segments with narrow whitish posterior margins. Ovipositor shining brown, about half as long as the abdomen. *Legs* brown, but the posterior and middle femora are more or less yellowish, excepting a brown preapical ring and apex; anterior entirely and the bases of the middle and posterior metatarsi snow white. *Wings* hyaline, with two cross-bands and an apical



spot enclosing a hyaline space, brownish; the first band is before, but not including, the small cross-vein; the second is much wider before and includes the posterior cross-vein; the apical spot is separated from the second band by one-half the width of the band; the apical margin of the second band and the basal margin of the apical spot are both convexed, thereby giving the hyaline space an hour-glass appearance; apical cell open; anal cell short, separated by more than the length of the posterior cross-vein from the margin of wing. Length 6.5 mm.

Jamaica (Johnson and Fox).

The coloring of this specimen, on account of bleaching, may be somewhat paler than in life.

**Calobata nebulosa** Loew, Centur., vii, 89, 1866. (Pl. II, fig. 10.)

*Front* rufous; sides shining; middle vitta opaque and whitish pollinose in certain aspects; three frontal bristles, ocelli somewhat nearer the vertical bristles than to the antennæ; vertex differentiated from the occiput, the lateral angles polished. Face yellow, more or less golden; orbits narrowly silvered; clypeus brownish, shining; cheeks linear, silvery; occiput rufous, shining, with bluish reflections above; the lower posterior orbits broadly silvered. Antennæ about three-quarters the length of the face, rufous; second joint darker, with black hairs and one or two long bristles beneath; third joint more or less silvery in certain aspects, about twice as long as the second; arista long, black, shortly plumose. Proboscis and palpi yellow. *Thorax* rufous, shining, especially the pleuræ; the latter with a broad silvery band before the root of the wings, crossing the sternopleura to the hind coxæ. Scutellum like colored. Halteres rufous, knobs darker. *Abdomen* bluish-black, subshining, base more or less rufous. Genitalia similar to *antennæpes* Say, but the clasps of male are nearly sessile, covered with long hairs. Ovipositor dark rufous, about three-fourths as long as the abdomen. *Legs* yellowish, but apex of fore femora and entire tibiæ black. Fore tarsi, except the two apical joints, white. Middle and hind tibiæ and tarsi brown. *Wings* brownish hyaline, with a brown cloud centered about the middle of apical cell and more or less expanded into the surrounding cells; the apical cell open; anal cell short, with an acute angle. Length 7 mm.

Both sexes. Costa Rica and Hayti.

**Calobata ichneumonea** Brauer, Sitzungsber. d. k. Akad., xci, 388, 1885. (Pl. II, fig. 11.)

Van der Wulp, in the "Biologia," Diptera, vol. ii, p. 374, gives a translation of the original description and additional notes, which fully describes this species. The clasps of the male genitalia are rather more complicated than the others, and the figure given on the plate will be sufficient for identification.

Both sexes. Mexico.

**Calobata callichroma** Bigot, Ann. Soc. Ent. France, 373, 1886.

This species is also noted by van der Wulp, and as these specimens are rather mutilated, I cannot give any further notes, except

that there is only one frontal bristle, and the yellow clasps of the male genitalia are simple and similar to *antennæpes* Say.

One pair. Mexico.

**Calobata diversa** Schiner, Novara Reise, 250, 1868.

This species is readily distinguished by its blackish wings and the short second section of the costa.

Two females. Mexico.

**Calobata angulata** Loew, Centur., vii, 87, 1866. (Pl. II, figs. 12, 13, 14.)

Bluish-black to brownish. *Front*, vertex and occiput not differentiated by ridges. Front brownish, sometimes with bluish-black reflections, subshining, thinly whitish pollinose; a round velvety-black spot in the middle just before the black ocellar tubercle; this tubercle is situated about midway between the post-verticals and the antennæ; three frontal bristles. Vertex with bluish-black subshining lateral angles. Occiput bluish-black, white pollinose above; brown and silvery below. Face shorter than wide, thinly white pollinose, brown at sides, yellow in the middle, with a narrow black transverse line between the foveæ; clypeus brown, shining, with white bloom; cheeks brown, very narrow. Antennæ brown or rufous, as long as the face; third joint three to four times as long as the second, infusate at base; arista blackish-brown, bare. Proboscis and palpi brown. *Thorax* bluish, subopaque, caused by the whitish granular coating, posterior margin and pleuræ more shining; below the fore coxæ yellow. Metanotum whitish pollinose. Scutellum somewhat more shining than the thorax. Halteres blackish, pedicles yellow. *Abdomen* brownish; first segment with a broad pollinose posterior marginal band; posterior margins of second, to sometimes the fourth segments, white. Genitalia of both sexes similar to *antennæpes* Say, but the clasps of male are again forked posteriorly (see fig. 12). Ovipositor of female shorter in comparison and apex more attenuated, black, apical third shining. *Fore coxæ* and femora brown; tibiæ black; tarsi white, the basal joints somewhat brownish beneath. Middle femora black, apex and extreme base rufous, with a distinctly oblique preapical whitish band (fig. 14); tibiæ and tarsi blackish. Hind femora similar, but base broadly yellowish; metatarsi lighter. *Wings* brownish, with the base and two cross-bands, and more or less of the hind margin hyaline; first band slightly oblique, over the small cross-vein; the second somewhat lunate, beyond the posterior cross-vein, touching the costa just beyond the end of the second vein (fig. 13); apical cell open; anal cell very long, attenuated, ending about the length of the small cross-vein before the margin of wing. Length 8-10 mm.

Both sexes. Paramaribo, Dutch Guiana (Mayo).

**Calobata annulata** Fab. (Pl. II, figs. 15, 16 and 17.)

*Musca* Fabricius, Ent. Syst., iv, 338, 1794.

*Calobata* Wiedmann, Aus. Zw., ii, 534, 1830.

♂.—Similar to *angulata* Lw. The black median frontal spot less defined in outline; no frontal bristles; vertex more or less differentiated from the occiput by a ridge, not rounded. Face without a well-defined transverse stripe at the

oral margin; heavily silvered in certain aspects; foveæ dark brown to black; clypeus dark brown, polished and pollinose. Palpi distinctly marginated anteriorly with white. Antennæ brown; base of third joint reddish, as is also the base of the arista. *Thorax* bluish, more or less shining, pollinose posteriorly, not opaque; pleuræ more shining and silvery; metanotum black, silvery below. Scutellum brownish, shining, but brownish pollinose in certain aspects. Knob of halteres black. *Abdomen* shining, brownish; base of first segment broadly whitish pollinose; hind margins of second and following segments more or less narrowly yellowish. Genitalia not prominent, similar to *antennæpes* Say in that the claspers are simple (fig. 17). *All femora* are black or brown; the basal third and a preapical ring of hind and middle femora, not oblique (fig. 15), translucent whitish-yellow; the fore femora with an indistinct reddish ring just beyond the middle; all tibiæ blackish; anterior tarsi snow white. *Wings* hyaline, with a blackish cross-band between the anterior and including the posterior cross-veins; sometimes a trace of another band before the anterior cross-vein; a blackish apical spot, darker on the basal margin, and more or less hyaline towards the apex, separated from the preceding band by about the width of the band (fig. 16); apical cell open; anal cell long, attenuate, reaching to within one-half the length of the posterior cross-vein from the margin. Length 9-10 mm.

Several males. Paramaribo, Dutch Guiana (Mayo).

This species can be readily separated from *angulata* Lw. by the characters given in the table, and by the above description.

***Calobata lasciva* Fab. (Pl. II, fig. 18).**

*Musca* Fabricius, Ent. Syst. Suppl., 574, 1798.

*Calobata*, Wiedmann, Aus. Zw., ii, 535, 1830.

Similar to *angulata* Lw. Front flattened above; the black velvety median spot, especially of the ♀ is more pointed and nearly reaching the antennæ; vertex and occiput separated by a distinct ridge. A black velvety spot between the antennæ and the eyes, touching the latter. Third joint of antennæ yellowish-red at the base, on the inside. Genitalia similar to *antennæpes* Say, but the claspers of male are stouter and wider apart on a broad base. The preapical rings on the middle and hind femora are very narrow, and not at all, or only slightly, oblique; fore metatarsi black. Wings similar, but the apical, lunate, hyaline band is nearer the apex; the apical cell closed; anal cell not as long. Length 7.5-8 mm.

Both sexes. Jamaica (Johnson and Fox), Lower California.

Mr. Johnson records his capture and gives synonyms in his list of the "Diptera of Jamaica," Proc. Acad. Nat. Sci. Phila., 279, 1894.

***Cardiaphala longipes* Fab.**

*Musca* Fabricius, Ent. Syst., iv, 338, 1794.

*Cardiaphala* Macquart, Dipt. Exot., ii, 3, 243, 1843.

Generally brownish. *Front* shining, dark brown, with an opaque, brown, median vitta, in which are situated the ocelli about midway between the post-vertex and the antennæ; sides of front, especially the lower portion, wrinkled, with three frontal bristles; vertex polished, very much produced posteriorly

each side of the middle vitta, giving the head a condiform shape at the occiput when seen from above; the outer verticals are situated, each, at the extreme point of these productions; the post-verticals are in the concaved portion at the end of the median vitta; another pair, the inner verticals, are situated before these post-verticals, one each side of the vitta. Occiput likewise produced posteriorly, polished, dark brown below, lighter beneath the vertical productions. Face nearly black, very short, because of the encroaching of the oral margin between the antennal foveæ; a nose-like carina is distinct between the antennæ; a black velvety spot each side of the antennæ, with a whitish spot beneath; cheeks linear, yellowish; clypeus not prominent, brown. Proboscis yellow to brown; palpi black. Antennæ longer than the face, black; third joint four to six times as long as the second, cylindrical to about two-thirds its length, then suddenly tapering to a blunt apex; arista brown, with long pectinations above. *Thorax* brownish; mesonotum brown pollinose; one post dorsocentral, one post-alar, one supra-alar, two noto-pleurals. Pleuræ more shining, whitish below, more or less yellowish nearer the coxæ; sternopleura with a series of fine, long, brown hairs; metanotum subshining, whitish. Scutellum abruptly produced above, before the two apical bristles, this callus being brown pollinose, the rest polished. Halteres whitish, knobs black. *Abdomen* somewhat brown pollinose above, excepting the shining first and last segments; the posterior margins of the first broadly, and the following segments, narrowly, whitish margined. Genitalia similar to *Calobata antennæpes* Say, but the clasps of the male are more flattened, yellow at base, black at the tips where they are abruptly bent inwards, and provided with minute spines on their inner edges. Ovipositor of female polished, black. *Anterior legs* blackish; middle and posterior legs rufous or yellowish; posterior femora suddenly thickened just beyond the middle, tapering to the knees. *Wing* blackish; hyaline as follows: base to end of second basal and anal cells, a band over the anterior cross-vein, elongated, a rounded spot in the submarginal cell at end of second vein, another beyond in the closed or nearly closed apical cell, and another beyond the posterior cross-vein; anal cell short, acute; anterior cross-vein at or beyond the middle of the discal cell. Length 8-9 mm.

Both sexes. Paramaribo, Dutch Guiana (Mayo).

The three elongated spots in the apical portion of the wings are very characteristic of this species, as well as the cordate formation of the occiput. The wing is figured by Macquart, and his figure of the head shows the shape of the vertex very well.

**Cardiacephala myrimex** Schiner, Novara Reise, 255, 1868.

Male. Paramaribo, Dutch Guiana (Mayo).

## EXPLANATION OF PLATE I.

- Fig. 1.—*Micropeza ambigua* n. s., lateral view of head.  
 “ 2.— “ “ lateral view of abdomen of male.  
 “ 3.—*Calobata univitta* Walk., genitalia of male.  
 “ 4.— “ “ “ genitalia of female.  
 “ 5.— “ *alesia* Walk., genitalia of male.  
 “ 6.— “ “ “ genitalia of female.  
 “ 7.— “ *antennæpes* Say, genitalia of male.  
 “ 8.— “ “ “ genitalia of female.

## EXPLANATION OF PLATE II.

- Fig. 9.—*Calobata antennæpes* Say, clasps of male.  
 “ 10.— “ *nebulosa* Lw., clasps of male.  
 “ 11.— “ *ichneumonea* Brauer, clasps of male.  
 “ 12.— “ *angulata* Lw., clasps of male.  
 “ 13.— “ “ wing.  
 “ 14.— “ “ hind femur.  
 “ 15.— “ *annulata* Fab., hind femur.  
 “ 16.— “ “ wing.  
 “ 17.— “ “ clasps of male.  
 “ 18.— “ *lasciva* Fab., clasps of male.



